NOVEMBER/DECEMBER 2024

CEL42/FEL52 — ELECTRONIC COMMUNICATION SYSTEMS

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define modulation.
2. What are the demodulation methods for DSB-SC signals?
3. What is detector?
4. What are the disadvantages of using balanced slope detector for demodulation of FM signal?
5. Define Pulse modulation.
6. What are the two limitations of delta modulation?
7. Define RADAR.
8. What is a waveguide?
9. Define antenna.
10. What is meant by radiation pattern?

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) What is modulation in communication?

Or

(b) What is VSB modulation technique?

12. (a) Derive the expression for frequency modulated wave.

Or

(b) How is FM signal generated by reactance modulator circuit?

13. (a) Explain how PPM can be generated from PWM signals.

Or

(b) Explain the generation of demodulation of PPM signals.

14. (a) Explain the concept of multiplexing and list the categories of multiplexing.

Or

(b) Describe ASK, FSK and PSK Mechanisms and apply them over the digital data 101101.

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15. (a) What are different types of antenna polarization? Explain its types.

Or

(b) Explain radiation pattern in antenna theory.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. How AM transmitter and receiver works?

17. Draw and explain the block diagram of FM transmitter and receiver.

18. What are the differences between PAM, PWM, and PPM?

19. Define frequency division multiplexing? Explain the FDM multiplexing and de multiplexing process with neat diagrams.

20. With necessary illustrations explain the radiation characteristics of Yagi Uda antenna.

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